



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,445	10/13/2000	Charles Lee Asplin	ASPL-007	1343

7590

09/23/2002

Curtis V. Harr  
Registered Patent Attorney  
P. O. Box 2842  
Fargo, ND 58108-2842

EXAMINER

ADDIE, RAYMOND W

ART UNIT

PAPER NUMBER

3671

DATE MAILED: 09/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/687,445

Applicant(s)

ASPLIN, CHARLES LEE

Examiner

Raymond W. Addie

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 28 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 7-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 7-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 12 is objected to because of the following informalities:

Line 12, the phrase "delivering said sand and said slab to be leveled" should be --delivering said sand through said slab to be leveled--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-11, 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7, lines 14-15 recite "gun nozzle having a threaded end for connection with said drilled hole so as to create a substantially fluid tight connection with said drilled hole".

Claims 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Art Unit: 3671

The omitted structural cooperative relationships are:

related to how a threaded nozzle is being connected to the drilled hole.

Does the drilled hole have corresponding threads? If not how is a fluid tight connection made "substantially fluid tight"? Wouldn't the threads reduce the diameter of the nozzle, thereby making the connection less fluid tight?

For examination purposes, the limitation is not seen to require corresponding threads in the drilled hole.

Claim 18 recites the limitation "said sand shutoff valve" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: providing a sand shutoff valve.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 12, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wildon # 5,558,474 in view of Poulter # 1,915,032.

Wildon discloses an apparatus for discharging sand under pressure. Said apparatus comprising:

A sand storage tank (11) having a sand outlet (12).

A compressed air source (such as a compressor driven by an internal combustion engine).

A mixing chamber (17/14a/13) connected to the sand outlet and compressed air source.

An elongate air and sand delivery line (14) connected to said mixing chamber.

An injector gun having a valve (21) and a gun nozzle for the delivery of sand/air mixture.

Wildon does not disclose the use of a threaded nozzle for connection with the concrete slab. However, Poulter teaches a method and means for correcting sunken pavement.

Said means comprising a sand pump (4) and injection means (3), in the form of a threaded nozzle. Said nozzle being connectable, in a fluid tight manner with a drilled hole (2) in the pavement, via a correspondingly threaded sleeve (3).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the sand blaster of Wildon, with a threaded nozzle, as taught by Poulter, in order to inject a well known fill material into a subgrade thereby raising a sunken pavement. See Poulter col. 2; fig. 1.

In regards to Claims 12, 17 Wildon discloses a method of dispensing a fill material, such as sand, under pressure. Said method comprising the steps of:

Supplying a storage tank (11), filled with a well dried sand. Said tank having an outlet.

Supplying a compressed air source in fluid tight connection with said outlet.

Mixing a well known fill material with said compressed air.

Delivering said sand/air mixture to an injector gun (15), having a nozzle,  
via an elongate hose (14).

Drilling a hole in said slab to be leveled or raised.

Attaching said gun nozzle to said drilled hole via a hose (24).

What Wildon does not disclose is using the apparatus to raise a sunken section of pavement. However, Poulter teaches a method of raising a sunken pavement comprising the steps of:

Drilling a hole (2) through a slab (1) to be raised.

Attaching said gun nozzle to said drilled hole.

Operating said injector gun in bursts so as to provide compressed air sufficient to temporarily lift said slab and deliver a quantity of sand to permanently fills under said raised slab. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the method of dispensing sand of Wildon, with the method steps of supplying a sand/air mixture through an elongate hose and gun nozzle, through a sunken section of pavement, as taught by Poulter, in order to raise a sunken pavement. See Poulter col. 2, lines 50-col. 3, line 38.

In regards to Claim 18 Wildon discloses the step of adjusting a sand shutoff valve so as to control the flow of sand to the mixing chamber. See col. 2, lines 22-40.

In regards to claim 19 Poulter teaches the step of drill a 2<sup>nd</sup> strategically placed hole in said slab. Moving said gun nozzle to said second hole and repeating said operating step. See col. 2, line 90-col. 3, line 43.

In regards to claim 20 Poulter teaches the step of patching said holes (2) with a plug (5).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Poulter # 1,915,032, as applied to claim 7 above, and further in view of Carey-Yard # 4,850,752.

Wildon in view of Poulter disclose essentially all that is claimed except for a mixing chamber comprising a small diameter hose fitted inside a sand outlet.

However, Carey-Yard teaches a stone-blowing tool (10) comprising: a smaller diameter hose (12) for supplying compressed air fitted inside a larger diameter stone outlet (14), thereby creating a "Venturi effect". Therefore, it would have been obvious to one of ordinary skill, in the art, at the time the invention was made to provide the sand delivery system of Wildon in view of Poulter, with the mixing chamber as taught by Carey-Yard, in order to facilitate delivery of the sand via a vacuum created under a "Venturi effect".

Art Unit: 3671

5. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Poulter and Carey-Yard, as applied to claim 8 above, and further in view of Casella # 5,974,611.

Wildon discloses the use of a plurality of flow control (shutoff) valves (13, 18, 21) throughout the sand dispensing system. Casella discloses the use of a plurality of pressure relief valves/venturi system (46, 47). It would be obvious to one of ordinary skill in the art, at the time the invention was made, to provide the sand discharging system of Wildon in view of Poulter and Carey-Yard, with a plurality of pressure relief valves and/or a venturi system, as taught by Casella, in order to prevent over-pressurization of the system.

In regards to Claim 11, Wildon discloses the use of a high volume air compressor.

6. Claims 13-16, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Poulter 1,915,032 as applied to claim 12 above, and further in view of Feldsted # 4,466,760.

Poulter in view of Wildon discloses essentially all that is claimed except for a pressure relief valve disposed between a compressed air source and a sand outlet of a sand storage tank. However, Feldsted teaches a mobile material handler (01). Said apparatus comprising a compressed air supply line (24) having a relief valve (not shown) disposed between an air compressor and a dry material storage tank and a venturi assembly (40) to prevent overpressure within the storage vessel (34).



Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of raising and lifting a slab of Poulter in view of Wildon, with a pressure relief valve as taught by Feldsted, in order to ensure the pressure within the storage vessel does not exceed a predetermined pressure.

See Feldsted col. 3, lines 52-60; col. 4, lines 25-29.

In regards to Claims 15, 16 Wildon teaches supplying a sand shutoff valve (13) between said sand storage tank (11) and said mixing chamber (14a/17) and the step of adjusting said sand shutoff valve so as to control the flow of sand to said mixing chamber. See col. 2, lines 10-24.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 7-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

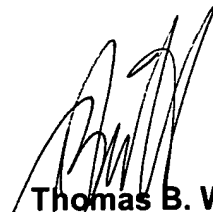
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peters # 2,007,457 discloses a method and apparatus for raising sunken pavement.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (703) 305-0135. The examiner can normally be reached on Mon-Fri from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Will, can be reached on (703) 308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



**Thomas B. Will**  
**Supervisory Patent Examiner**  
**Group 3600**

**RWA**  
**9/15/2002**